

**SYNONYMY, GEOGRAPHIC DISTRIBUTIONS,
LECTOTYPE DESIGNATIONS AND TYPE DEPOSITORIES
OF SOME AUSTRALIAN AND SOUTH PACIFIC DACINAE
(DIPTERA: TEPHRITIDAE)**

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Abstract

Bactrocera (Bulladacus) neotigrina Drew & Hancock, from north-eastern Queensland, is placed as a new synonym of *B. (Bulladacus) flavinotus* (May), comb. nov., which is removed from synonymy with *B. (Bulladacus) tigrina* (May). Corrected geographic distributions are provided for ten species of *Bactrocera* Macquart from the South Pacific. Lectotype designations for *B. curvipennis* (Froggatt) and *Dacus ornatissimus* Froggatt are discussed and notes on type depositories provided.

Introduction

Some species of Dacinae in the South Pacific region are major pests of a wide range of horticultural crops. Besides crop losses incurred, many countries experience quarantine restrictions to export trade in fresh horticultural produce. Consequently, it is essential that published geographic distributions are correct. Extensive fruit fly surveillance programmes that have included 22 Pacific Island countries, from 1990 to the present, have provided comprehensive data on geographic distributions and host plant records of most known species (Allwood and Drew 1997). Some incorrect distributions were listed by Norrbom *et al.* (1998), together with incorrect deductions on lectotype designations and queries on type depositories. This paper discusses the necessary corrections to several species of *Bactrocera* Macquart.

When Drew *et al.* (1999) described *Bactrocera neotigrina* Drew & Hancock from north-eastern Queensland, an earlier name by May (1958) unfortunately was overlooked, being included at that time in the synonymy of *B. tigrina* (May). The resulting synonymy is detailed below.

New synonymy

Bactrocera (Bulladacus) flavinotus (May), comb. nov.

Afrodacus flavinotus May, 1958: 293. Type locality Atherton, Qld. Holotype ♀ in Queensland Museum, Brisbane [examined].

Bactrocera (Bulladacus) neotigrina Drew & Hancock, in Drew *et al.*, 1999: 7. Type locality Helenvale, Qld. Holotype ♂ in Queensland Museum, Brisbane [examined]; syn. nov.

Comments. This species was described by May (1958) from a single specimen, considered to be teneral by Drew (1989), who incorrectly synonymised it with *B. tigrina*. It is here removed from synonymy, differing from *B. tigrina* in characters noted by Drew *et al.* (1999), particularly the

mostly fulvous scutum in both sexes and the very weakly indicated bulla on the wing in males.

Geographic distributions

The distributions of the following ten South Pacific species of *Bactrocera* Macquart were incorrectly or incompletely indicated by Nörrbom *et al.* (1998).

Bactrocera curvipennis (Froggatt)

Recorded only from New Caledonia and not Fiji (see notes below under lectotype designations). A record from Vanuatu (Aneityum, November 1930: see Drew 1989) is unconfirmed and doubtful; it has not been detected on any Vanuatu island in recent surveys.

Bactrocera distincta (Malloch)

Recorded from Fiji, Futuna, Niue, Tonga and Samoa (American and Western).

Bactrocera facialis (Coquillett)

Recorded only from Tonga and not New Caledonia.

Bactrocera kirki (Froggatt)

Recorded from French Polynesia, Futuna, Niue, Tonga, Samoa (American and Western) and Wallis.

Bactrocera musae (Tryon)

Recorded from north-eastern Queensland (Australia) and mainland Papua New Guinea. Its presence in the Bismarck Archipelago is unconfirmed, while reports from the Solomon Islands are doubtful and unconfirmed and reports from Vanuatu are incorrect.

Bactrocera paraxanthodes Drew & Hancock

Recorded only from New Caledonia. Records from Vanuatu and Western Samoa (see Drew and Hancock 1995) refer to undescribed sibling species.

Bactrocera passiflorae (Froggatt)

Recorded from Fiji, Niue, Tuvalu and Wallis. Typical *B. passiflorae* has never been reared from fruit samples in Tonga and a morphologically similar population in the northern Tongan islands of the Niua group (see Drew and Hancock 1995) is probably an undescribed sibling species.

Bactrocera psidii (Froggatt)

Recorded only from New Caledonia and not from Tonga and Western Samoa.

Bactrocera simulata (Malloch)

Recorded from Papua New Guinea (Bougainville) and the Solomon Islands. A record from Vanuatu appears to be a misidentification of another species.

Bactrocera xanthodes (Broun)

Recorded from Cook Islands, Fiji, Samoa (American and Western), Tonga, Wallis and Futuna.

Lectotype designations

The lectotype designations for *Bactrocera curvipennis* (Froggatt) and *Dacus ornatissimus* Froggatt by Drew (1989) were declared invalid by Norrbom *et al.* (1998). However, these lectotype designations are valid and the reasons for this are given below. As noted by Drew (1974), Froggatt often confused the locality records of his type material in print but had the correct data on the specimen labels. For example, Froggatt (1909) described *Dacus ornatissimus* and *Dacus curvipennis* on the same page but incorrectly, under habitat, listed the locality and host of *D. curvipennis* under *D. ornatissimus* and vice versa.

Bactrocera curvipennis (Froggatt)

The types of this species are in the New South Wales Agriculture Collection. They are correctly labelled 'syntype, New Caledonia, bred ex mandarins, October 1901, coll. Mr Butler'. Drew (1989) correctly designated one of the two types as the lectotype and the other as a paralectotype. In the original description, Froggatt (1909) incorrectly listed the habitat and host data of *B. curvipennis* as Fiji, ex bananas, the correct data having been listed in error under *Dacus ornatissimus*. It is important to note that *B. curvipennis* has never been recorded from Fiji, only from New Caledonia.

'*Dacus*' *ornatissimus* Froggatt

The types of this species are also in the New South Wales Agriculture Collection. As explained by Drew (1974, 1989), the type series consists of two species, *Bactrocera psidii* (Froggatt) (bred from guava from New Caledonia) and *B. musae* (Tryon) (bred from banana from Australia, not Fiji as originally stated). The lectotype (labelled type) was correctly designated by Drew (1989) and is the only specimen of *B. psidii*, while the paralectotypes (labelled cotypes) are all specimens of *B. musae*. The illustrations by Froggatt (1909) are of *B. musae*. The lectotype is labelled 'New Caledonia, 4.4.97, bred guava, type WWF' and it is probable that this is also an unlabelled syntype of *B. psidii*, described from material from the same source. It may have been included inadvertently in the type series of *D. ornatissimus* but appears to be the specimen specified as the 'type' by Froggatt (1909) but listed incorrectly, along with habitat and host data, under *D. curvipennis*. The confusion caused by Froggatt in the handling and recording of these type specimens was discussed in detail by Drew (1974). Neither *B. psidii* nor *B. musae* has ever been recorded from Fiji and *B. musae* never from New Caledonia. As in the case of the syntypes of *B. curvipennis*, the syntypes of *D. ornatissimus* were correctly labelled by Froggatt.

Type depositories

Norrbom *et al.* (1998) recorded the present location of the types of several *Bactrocera* species as uncertain. However, their current status is indicated below (see Drew 1989).

In New South Wales Agriculture Collection (NSWA): *B. curvipennis* (Froggatt); *B. ornaticornis* (Froggatt).

Probably in NSW: *B. psidii* (Froggatt) [see above under '*Dacus ornaticornis*'].

Unknown, probably lost: *B. cucumis* (French), *B. frenchi* (Froggatt); *B. nigrofasciatus* (Tryon), *B. pepisalae* (Froggatt); *B. rarotongae* (Froggatt); *B. tongensis* (Froggatt); *B. tryoni* (Froggatt).

Lost: *B. xanthodes* (Broun).

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